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Orthotrichum gymnostomum Bruch.

By G. N. Best.

This rare moss was collected for the first time in North America by Rev. A. C. Waghorne, at Upper Sandy Point, N. F., on the 28th of April last. It appears to have been first found in Germany by Bruch, who gave a description of it in Bridel's *Bryologia Universalis*, 1826. It was afterwards collected at a few places in that country, also in Norway, in Sweden, possibly in England, and more recently in France.

Material for comparison is scarce, and the only specimen I could obtain was a Swedish one kindly loaned me by Mrs. E. G. Britton. Our plant differs from that in being taller, the papillae smaller, ortherwise the agreement is perfect.

Since it is now known that *Orthotrichum gymnostomum* is to be found in this country our botanists will be on the lookout for it, and in order that they may recognize it a brief description is given.

It grows on poplars, in yellowish-green tufts reddish-brown within; stem ½ to 1 cm. tall, erect, rigid, usually simple, sometimes branching, with one or more clavate innovations; leaves when dry closely imbricated, when moist spreading, oblong-ovate concave-carinate, obtuse with the margin involute except at the base, nerve narrow, disappearing under the apex; perichetial similar but longer, oblong-lanceolate, usually plane at the rounded or blunt apex; areolation angular, middle basal cells broadly linear, quadrate at the angles, upper oblong-rhomboidal, apical oval or roundish, each cell with one or two stout papillae, these sometimes bifurcated.

Dioicous; male plants smaller in seperate tufts or mixed with the female; calyptra plicate, conical, hairless, rough and black at apex, scarcely covering one-third of the capsule; operculum narrowly conical from a convex base; capsule immersed, oblong-ovate, oblong when dry and empty, rounded at the truncate base, without peristome, neck shorter than sporange, stomata superficial, only a few and these near the mouth, bands eight, yellowish, composed of two to four rows of yellowish thick-walled cells; pedicel very short.

Although closely related to *Orthotrichum obtusifolium* Schrad., it may readily be distinguished from this by the angular cells, involute leaves, absence of peristome and the neck shorter than the sporange.

ROSEMONT, N. J.

Microsphaera densissima (Schwein.) Peck.

BY GEO. F. ATKINSON.

This very interesting species first described by Schweinitz* as *Erysiphe densissima*, was collected by me at Ithaca, N. Y., August 7, 1893. There has been some uncertainty as to the identity of this species of Schweinitz, and probably for this reason Burrill omits a description of it in his latest work on the Erysipheae.† It is only mentioned in a discussion of its once supposed identity with a very different fungus, *Microsphaera calocladophora*,‡ Atkinson. In his article on the Erysipheae§ of Illinois, Burrill refers to it as follows: "*Microsphaera densissima* (Schw.) Peck, cannot be distinguished by its perithecia from the ordinary form on *Q. rubra;* but it presents some peculiarities of the mycelium, which if constant would entitle it to specific distinctness." The specimens agree perfectly, it seems to me, with Schweinitz' description, the patches of whitish mycelium being very dense with a long filamentous tomentum. The patches are beautifully orbicular, the prostrate threads lying close to the leaf and beautifully radiate from the center. The portions of the leaf on which the mycelium is seated are very much injured, so that they become yellowish and marked with numerous black spots on the lower side. It occurs at Ithaca on *Quercus tinctoria.* According to Burrill, Peck reports it on *Q. tinctoria.* In the 26th Report of the New York State Museum, p. 80, Peck reports it on fallen leaves. Several years ago while studying the species‖ which occurs on *Q. aquatica* and *Q. laurifolia* in the Southern States

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* Syn. Am. Bor. n. 2479.

† Ellis' North Am. Pyren. 29.

‡ Some Erysipheae from Carolina and Alabama. Jour. Elisha Mitchell Society 7: 13.

§ Bull. Ill. State Lab. Nat. Hist. 2: 426. 1887.

‖ *Microsphaera calocladophora* Atkinson. See note ‡.